

Express Mail Mailing Label No. EL932952245US

PATENT
Atty. Docket No. MDS-022C1
(6219/6)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: Nordstrom et al.

SERIAL NO.: Continuation of
U.S.S.N. 09/738,613

GROUP NO.: Not yet assigned

FILING DATE: Herewith

EXAMINER: Not yet assigned

TITLE: A SPECTROSCOPIC SYSTEM EMPLOYING A PLURALITY
OF DATA TYPES

PRELIMINARY AMENDMENT

Box PATENT APPLICATION
Commissioner for Patents
Washington, D.C. 20231

Sir:

Prior to the calculation of the filing fee for the above-identified continuation application, Applicants respectfully request entry of this Amendment.

In the Specification:

Please delete the section under the heading "Cross-Reference to Related Applications" and replace with the replacement section as set forth in the attached marked up version of the amended Cross-Reference to Related Applications section to read as set forth in the replacement Cross-Reference to Related Applications section in clean form.

In the Claims:

Please add new claims 24-48 and cancel without prejudice claims 1-23 prior to calculating the filing fee.

Please add new claims 24-48 as follows:

20071932-023022

24. (New) A method of determining a condition of a test specimen, said method comprising:
determining whether fluorescence spectral data from a test specimen is not definitive of
said test specimen having a known condition;
obtaining reflectance spectral data from said test specimen;
processing said reflectance spectral data of said first test specimen using reference
reflectance spectral data from a plurality of reference specimens having said known condition;
determining said condition of said first test specimen based at least in part on said
processing.
25. (New) The method of claim 24, wherein said test specimen comprises a tissue specimen
and said plurality of specimens comprise a plurality of tissue specimens.
26. (New) The method of claim 25, wherein said tissue comprises human cervical tissue and
said known condition is a known state of health.
27. (New) The method of claim 26, wherein said known state of health comprises one of the
conditions of normal squamous tissue, metaplasia, CIN I, and CIN II/III.
28. (New) The method of claim 24, wherein said reference reflectance spectral data
comprises an average amplitude for each of a plurality of wavelengths.
29. (New) The method of claim 28, wherein said processing comprises determining a
residual amplitude at each of said plurality of wavelengths.
30. (New) The method of claim 29, wherein determining said residual amplitude at each of
said plurality of wavelengths comprises subtracting an average amplitude of said reference
reflectance spectral data from an amplitude of said reflectance spectral data of said test
specimen.

31. (New) The method of claim 30, wherein determining said condition of said test specimen comprises comparing said residual amplitude at each of said plurality of wavelengths to one or more sets of reference residual reflectance spectral data.
32. (New) The method of claim 24, further comprising,
obtaining additional optical information from said test specimen, and said determining of said condition comprises,
evaluating said additional optical information with said fluorescence spectral data and said reflectance spectral data from said test specimen.
33. (New) The method of claim 32, wherein said additional optical information comprises video information.
34. (New) The method of claim 32, wherein said additional optical information comprises an optical image.
35. (New) The method of claim 32, wherein said test specimen comprises a tissue specimen and said plurality of specimens comprise a plurality of tissue specimens.
36. (New) The method of claim 35, wherein said tissue comprises human cervical tissue and said known condition is a known state of health.
37. (New) The method of claim 36, wherein said known state of health comprises one of the conditions of normal squamous tissue, metaplasia, CIN I, and CIN II/III.
38. (New) A system for determining a condition of a test specimen, said system comprising:
a data collection module adapted for obtaining reflectance spectral data from said test specimen; and
a computation module adapted for determining whether fluorescence spectral data from a test specimen is definitive of said test specimen having a known condition, in response to

determining that said fluorescence spectral data from said test specimen is not definitive, processing said reflectance spectral data of said first test specimen using reference reflectance spectral data from a plurality of reference specimens having said known condition, and determining said condition of said first test specimen based at least in part on said processing.

39. (New) The system of claim 38, wherein said test specimen comprises a tissue specimen and said plurality of specimens comprise a plurality of tissue specimens.

40. (New) The system of claim 39, wherein said tissue comprises human cervical tissue and said known condition is a known state of health.

41. (New) The system of claim 40, wherein said known state of health comprises one of the conditions of normal squamous tissue, metaplasia, CIN I, and CIN II/III.

42. (New) The system of claim 38, wherein said data collection module obtains additional optical information from said test specimen, and
said analysis module evaluates said additional optical information with said fluorescence spectral data and said reflectance spectral data from said test specimen in said identifying said state of health of said test specimen.

43. (New) The system of claim 42, wherein said additional optical information comprises video information.

44. (New) The system of claim 42, wherein said additional optical information comprises an optical image.

45. (New) The system of claim 42, wherein said test specimen comprises a tissue specimen and said plurality of specimens comprise a plurality of tissue specimens.

20250220 26572007

46. (New) The system of claim 45, wherein said tissue comprises human cervical tissue and said known condition is a known state of health.

47. (New) The system of claim 46, wherein said known state of health comprises one of the conditions of normal squamous tissue, metaplasia, CIN I, and CIN II/III.

48. (New) A method of determining a condition of a test specimen, said method comprising:
determining that a first spectral observation from a test specimen is not definitive of said test specimen having a known condition;

obtaining a second spectral observation from said test specimen, said second spectral observation using information obtained from a different type of spectral data than said first spectral observation;

processing data from said second spectral observation of said test specimen using reference spectral data from a plurality of reference specimens having said known condition;

determining said condition of said test specimen based at least in part on said processing.

REMARKS

Claims 1 - 23 were originally filed in application serial number 09/738,613. Applicants add new claims 24-48 and cancel without prejudice claims 1-23. As a result, claims 24-48 will be pending after entry of this Amendment. In accordance with 35 U.S.C. §1.121, attached is a clean copy of all pending claims.

Applicants add new claims 24 - 48 to further claim the subject matter that the Applicants consider to be their invention. Applicants submit that no new material is introduced by these new claims. Applicants submit that support for the new claims appears throughout the specification and the figures, and at least at page 7, line 3 to page 26, line 20; at FIG. 3; at FIG. 6; and at FIG. 7. The following table lists specific examples of basis in the Specification for certain of the new claims. Support is not limited to the specific examples in the table below.

<u>Claim #</u>	<u>Examples of Basis in Specification</u>
24	Page 12, line 3 to page 13, line 3; Page 14 lines 10-19; Page 14, line 20 to page 15, line 2; Page 16, line 15 to page 17, line 6; Page 19, line 15 to page 20, line 18; Page 20, line 19 to page 21, line 4; Page 22, line 20 to page 23, line 10; FIG. 3, FIG. 6, FIG. 7.
28	Page 20, line 19 to page 23, line 15.
29	Page 23, line 5 to page 23, line 15.
30	Page 23, line 5 to page 23, line 15.
31	Page 20, lines 5-20; Page 23, line 16 to page 26, line 20.
38	See examples for Claim #24.
48	Page 7, lines 3-14; and see examples for Claim #24.

In addition, Applicants amend the specification under the Cross-Reference to Related Applications section to insert the proper claim for priority. Applicants submit that no new matter is introduced by these amendments. In accordance with 35 U.S.C. §1.121, attached is a marked up version of the replacement section and a copy of the replacement section in clean form.

CONCLUSION

Applicants request that the Examiner consider the application and claims as presented at the Examiner's earliest convenience. If, in the Examiner's opinion, a telephonic interview would expedite the favorable prosecution of the present application, the undersigned attorney would welcome the opportunity to discuss any outstanding issues, and to work with the Examiner toward placing the application in condition for allowance.

Respectfully submitted,



Thomas C. Meyers
Attorney for Applicants
Testa, Hurwitz, & Thibault, LLP
High Street Tower
125 High Street
Boston, MA 02110

Date: February 8, 2002
Reg. No. 36,989
Tel. No. (617) 248-7013
Fax No. (617) 248-7100

2279300

2002 FEB 22 10 03 AM

MARKED UP VERSION OF AMENDED

CROSS-REFERENCE TO RELATED APPLICATIONS SECTION

This application is a continuation of co-pending United States patent application Serial No. 09/738,613, filed December 15, 2000, which application is a continuation-in-part of U.S. patent application Serial No. 09/470,071, filed December 22, 1999, which claims priority to and the benefit of U.S. provisional patent application Serial No. 60/113,761, filed December 23, 1998, and this application is related to the U.S. patent application entitled, "System for Normalizing Spectra" and identified by Attorney Docket Number MDS-020, filed on even date herewith, and to the U.S. patent application entitled, "Spectral Data Classification Of Samples" and identified by Attorney Docket Number MDS-021, filed on even date herewith. All of the above applications are assigned to the common assignee of this application, and are hereby incorporated by reference.

20000920 090909 090909

REPLACEMENT CROSS-REFERENCE
TO RELATED APPLICATIONS SECTION IN CLEAN FORM

This application is a continuation of co-pending United States patent application Serial No. 09/738,613, filed December 15, 2000, which application is a continuation-in-part of U.S. patent application Serial No. 09/470,071, filed December 22, 1999, which claims priority to and the benefit of U.S. provisional patent application Serial No. 60/113,761, filed December 23, 1998, and this application is related to the U.S. patent application entitled, "System for Normalizing Spectra" and identified by Attorney Docket Number MDS-020, filed on even date herewith, and to the U.S. patent application entitled, "Spectral Data Classification Of Samples" and identified by Attorney Docket Number MDS-021, filed on even date herewith. All of the above applications are assigned to the common assignee of this application, and are hereby incorporated by reference.

09/738,613

CLEAN COPY OF ALL PENDING CLAIMS

24. (New) A method of determining a condition of a test specimen, said method comprising:
determining whether fluorescence spectral data from a test specimen is not definitive of
said test specimen having a known condition;
obtaining reflectance spectral data from said test specimen;
processing said reflectance spectral data of said first test specimen using reference
reflectance spectral data from a plurality of reference specimens having said known condition;
determining said condition of said first test specimen based at least in part on said
processing.
25. (New) The method of claim 24, wherein said test specimen comprises a tissue specimen
and said plurality of specimens comprise a plurality of tissue specimens.
26. (New) The method of claim 25, wherein said tissue comprises human cervical tissue and
said known condition is a known state of health.
27. (New) The method of claim 26, wherein said known state of health comprises one of the
conditions of normal squamous tissue, metaplasia, CIN I, and CIN II/III.
28. (New) The method of claim 24, wherein said reference reflectance spectral data
comprises an average amplitude for each of a plurality of wavelengths.
29. (New) The method of claim 28, wherein said processing comprises determining a
residual amplitude at each of said plurality of wavelengths.
30. (New) The method of claim 29, wherein determining said residual amplitude at each of
said plurality of wavelengths comprises subtracting an average amplitude of said reference
reflectance spectral data from an amplitude of said reflectance spectral data of said test
specimen.

20071933-020300

31. (New) The method of claim 30, wherein determining said condition of said test specimen comprises comparing said residual amplitude at each of said plurality of wavelengths to one or more sets of reference residual reflectance spectral data.

32. (New) The method of claim 24, further comprising,
obtaining additional optical information from said test specimen, and said determining of said condition comprises,
evaluating said additional optical information with said fluorescence spectral data and said reflectance spectral data from said test specimen.

33. (New) The method of claim 32, wherein said additional optical information comprises video information.

34. (New) The method of claim 32, wherein said additional optical information comprises an optical image.

35. (New) The method of claim 32, wherein said test specimen comprises a tissue specimen and said plurality of specimens comprise a plurality of tissue specimens.

36. (New) The method of claim 35, wherein said tissue comprises human cervical tissue and said known condition is a known state of health.

37. (New) The method of claim 36, wherein said known state of health comprises one of the conditions of normal squamous tissue, metaplasia, CIN I, and CIN II/III.

38. (New) A system for determining a condition of a test specimen, said system comprising:
a data collection module adapted for obtaining reflectance spectral data from said test specimen; and

20090201 22674007

a computation module adapted for determining whether fluorescence spectral data from a test specimen is definitive of said test specimen having a known condition, in response to determining that said fluorescence spectral data from said test specimen is not definitive, processing said reflectance spectral data of said first test specimen using reference reflectance spectral data from a plurality of reference specimens having said known condition, and determining said condition of said first test specimen based at least in part on said processing.

39. (New) The system of claim 38, wherein said test specimen comprises a tissue specimen and said plurality of specimens comprise a plurality of tissue specimens.

40. (New) The system of claim 39, wherein said tissue comprises human cervical tissue and said known condition is a known state of health.

41. (New) The system of claim 40, wherein said known state of health comprises one of the conditions of normal squamous tissue, metaplasia, CIN I, and CIN II/III.

42. (New) The system of claim 38, wherein said data collection module obtains additional optical information from said test specimen, and
said analysis module evaluates said additional optical information with said fluorescence spectral data and said reflectance spectral data from said test specimen in said identifying said state of health of said test specimen.

43. (New) The system of claim 42, wherein said additional optical information comprises video information.

44. (New) The system of claim 42, wherein said additional optical information comprises an optical image.

45. (New) The system of claim 42, wherein said test specimen comprises a tissue specimen and said plurality of specimens comprise a plurality of tissue specimens.

10071933.0P0002

46. (New) The system of claim 45, wherein said tissue comprises human cervical tissue and said known condition is a known state of health.

47. (New) The system of claim 46, wherein said known state of health comprises one of the conditions of normal squamous tissue, metaplasia, CIN I, and CIN II/III.

48. (New) A method of determining a condition of a test specimen, said method comprising:
determining that a first spectral observation from a test specimen is not definitive of said test specimen having a known condition;

obtaining a second spectral observation from said test specimen, said second spectral observation using information obtained from a different type of spectral data than said first spectral observation;

processing data from said second spectral observation of said test specimen using reference spectral data from a plurality of reference specimens having said known condition;

determining said condition of said test specimen based at least in part on said processing.

20230220 23512001